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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,991	02/23/2006	Atsushi Takahashi	10114961	3219
34283 QUINTERO L.	7590 12/27/2007 AW OFFICE, PC		EXAMINER	
2210 MAIN STREET, SUITE 200			MAI, HAO D	
SANTA MONICA, CA 90405			ART UNIT	PAPER NUMBER
			3732	
			MAIL DATE	DELIVERY MODE
			12/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)				
,	10/524,991	TAKAHASHI, ATSUSHI				
Office Action Summary	Examiner	Art Unit				
	Hao D. Mai	3732				
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address				
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA  - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period w  - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 16(a). In no event, however, may a reply be tirr rill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	N. nely filed the mailing date of this communication. D (35 U.S.C. § 133).				
Status						
1)⊠ Responsive to communication(s) filed on 12 Oc	otober 2007					
<i>,</i> —	, —					
closed in accordance with the practice under E	•					
Sidded in addordance with the practice and of E.	A punto Quayio, 1000 O.D. 11, 40	0.0.210.				
Disposition of Claims		•				
4) Claim(s) 1-6 is/are pending in the application.	4) Claim(s) 1-6 is/are pending in the application.					
4a) Of the above claim(s) is/are withdraw	4a) Of the above claim(s) is/are withdrawn from consideration.					
5) Claim(s) is/are allowed.	Claim(s) is/are allowed.					
6)⊠ Claim(s) <u>1-6</u> is/are rejected.	Claim(s) <u>1-6</u> is/are rejected.					
7) Claim(s) is/are objected to.	Claim(s) is/are objected to.					
8) Claim(s) are subject to restriction and/or	election requirement.					
Application Papers						
9) The specification is objected to by the Examine	r					
10)⊠ The drawing(s) filed on 18 February 2005 is/are	•	d to by the Examiner.				
Applicant may not request that any objection to the o		- •				
Replacement drawing sheet(s) including the correcti		•				
11) The oath or declaration is objected to by the Ex		• •				
Priority under 35 U.S.C. § 119						
•	rainaitu uradan 25 H.C.C. \$ 140/a)	(d) as (6)	-			
12)⊠ Acknowledgment is made of a claim for foreign a)⊠ All b)□ Some * c)□ None of:	priority under 35 U.S.C. § 119(a)	-(a) or (i).				
1.⊠ Certified copies of the priority documents	s have been received	•				
2. ☐ Certified copies of the priority documents		on No				
3. Copies of the certified copies of the priority	• •					
application from the International Bureau	·	d III tilis i valional Gtage				
* See the attached detailed Office action for a list of	, , , , , , , , , , , , , , , , , , , ,	rd				
355 the attuoried detailed Office deticit for a list t	or the continue copies not receive	<b>u</b> .				
Attachment(s)						
1) Notice of References Cited (PTO-892)	4) Interview Summary					
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Da					
3) Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date	5)  Notice of Informal P 6)  Other:	atent Application				
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## **DETAILED ACTION**

## **Drawings**

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "4" (Figures 1-7).

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121 (d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### Claim Objections

2. Claims 1-6 are objected to because of the following informality: "the hydrophilic grindstone sponge" is sometimes referred to as "the hydrophilic sponge" (claims 2-3) or as "the grindstone" (claim 5). This may render indefiniteness and/or lack of antecedent bases among the claims. Appropriate corrections are required.

### Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 1 recites the limitation "the top" (line 1 of claim 1), which lack antecedent basis.
- Claim 5 recites the limitation "the outside" (line 2 of claim 5), which lack antecedent basis.
- Claim 6 recites the limitation "the outside" (line 2 of claim 6), which lack antecedent basis.

# Claim Rejections - 35 USC § 103

- 5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 6. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiseman (2789352) in view of van Leuwen et al. (4008189) and further in view of Furuzono et al. (EP 1508586 A1).

Wiseman discloses a prophy chip, mounted on top of a dental rotary instrument, comprising: a hollow cup-shaped core 18 containing tooth polishing material 19 (Figs. 1, 3); a shaft/shank 6 containing a connecting means (column 2 lines 15-21); a soft rubber base 5 covering core 18; and a shank-equipped latch plate 4 fixing base 5 to shank 6 (Figs. 1-3);

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column 2 lines 10-21). However, Wiseman fails to disclose hydrophilic sponge of polyurethane covering the core, wherein the hydrophilic sponge comprises a grindstone of  $Ca_{10}(PO_4)_6(OH)_2$  therein; wherein the hydrophilic grindstone sponge is immersed in water prior to operation.

van Leuwen et al. disclose a hydrophilic polyurethane sponge/foam that is useful in cleaning and similar applications (abstract; column 1 lines 14-16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Wiseman by substituting the soft rubber base with a hydrophilic polyurethane sponge covering core 18 so that such sponge can absorb water to dissipate heat generated by friction. However, Wiseman/van Leuwen fail to disclose the hydrophilic polyurethane sponge comprising a grindstone of Ca<sub>10</sub>(PO<sub>4</sub>)<sub>6</sub>(OH)<sub>2</sub>; and that such hydrophilic grindstone sponge is immersed in water prior to operation.

It is well known in the field of polishing and cleaning that grindstone and/or abrasive grains are embedded into rubber base sponge to clean and polish surfaces. Additionally, Furuzono et al. disclose a polyurethane-base material containing grindstone  $Ca_{10}(PO_4)_6(OH)_2$  (paragraphs 16 and 39). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Wiseman/van Leuwen by embedding the hydrophilic polyurethane with a grindstone specifically  $Ca_{10}(PO_4)_6(OH)_2$  in order to provide an abrasive surface that effectively cleans and polishes surfaces of the teeth. Furthermore, it is inherent that a hydrophilic polyurethane with a grindstone  $Ca_{10}(PO_4)_6(OH)_2$  can be immersed in water prior to operation.

7. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiseman (2789352) in view of van Leuwen et al. (4008189), further in view of Furuzono et al. (EP 1508586 A1), and further in view of Kliger (3911922).

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Wiseman/van Leuwen/Furuzono disclose the invention substantially as claimed. However, Wiseman/van Leuwen/Furuzono fail to disclose the hydrophilic sponge and the core containing a water soluble agent consisting of a foaming agent, a sweetener, a fragrance, a medicament for inhibiting or preventing periodontal diseases or dental caries, or a coating agent that is releasable from the surface of the hydrophilic sponge. Wiseman/van Leuwen/Furuzono also fail to disclose the hydrophilic sponge (outside of the core) to be nonwoven and is a three-dimensionally continuous, porous film.

Kliger disclose a surgical polyurethane sponge which is nonwoven and a three-dimensionally continuous and porous film/layer (abstract; column 1 lines 49-62). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Wiseman/van Leuwen/Furuzono by making the hydrophilic sponge nonwoven and porous so that water can be absorbed and released easily. Furthermore, official notice is taken that the use of a water soluble agent consisting of a foaming agent, a sweetener, a fragrance, a medication for inhibiting or preventing periodontal disease or dental caries, or a coating agent along with such prophy chip tool during teeth cleaning and/or polishing is well known in the dentistry field. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute Wiseman's tooth polishing material with such water soluble agent.

## Response to Arguments

8. Applicant's arguments filed 10/12/2007, with respect to the rejection(s) of claim(s) 1-4 under Gozzi in view of Wiseman have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Wiseman/Leuwen/Furuzono.

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Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Hao D. Mai whose telephone number is (571) 270-3002. The examiner

can normally be reached on Monday-Friday. If attempts to reach the examiner by telephone are

unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on (571) 272-4964.

The fax phone number for the organization where this application or proceeding is assigned is

571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private

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would like assistance from a USPTO Customer Service Representative or access to the

automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HDM 12/19/2007

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